

UNITED STATES DISTRICT COURT  
DISTRICT OF MINNESOTA

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Kevin Khottavongsa, as Trustee  
for the Heirs and Next of Kin of  
Sinthanouxay Khottavongsa,

Court File No. 16-cv-1031 RHK/DTS

Plaintiff,  
vs.

City of Brooklyn Center, et al.,

Defendants.

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**DEFENDANTS' MEMORANDUM OF LAW IN OPPOSITION TO  
PLAINTIFF'S MOTION TO EXCLUDE EXPERT WITNESSES**

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**INTRODUCTION**

Plaintiff moved to exclude Defendants' rebuttal experts Dr. Mark Kroll, Dr. Uzma Samadani, and Michael Brave. Plaintiff purportedly brought this Motion under *Daubert*, but his allegations are simply a series of petty and baseless disagreements with the expert witnesses' conclusions. Nowhere does Plaintiff offer a proper legal or logical basis to support the exclusion of Defendants' expert witnesses' opinions and testimony under Rule 702 or *Daubert*. Moreover, Plaintiff concedes the legitimacy of Defendants' experts because he essentially abandoned his own medical expert and improperly and untimely disclosed a new expert to counter the very expert rebuttal opinions he does not want the jury to hear.

## BACKGROUND

### Dr. Mark W. Kroll, PhD, FACC, FHRS, FIEEE, FAIMBE

Dr. Mark W. Kroll (Dr. Kroll) is an adjunct professor of biomedical engineering at the University of Minnesota, and the California Polytechnic University, as well as a retired chief technology officer and senior vice president of St. Jude Medical. Dr. Kroll has been described “[a]s one of the most prolific inventors of medical devices in the world.”<sup>1</sup> Dr. Kroll specializes in bioelectricity which is the study of the interaction between electricity and the human body. This requires an extensive knowledge of both scientific and medical principles. As such, Dr. Kroll is believed to be the only individual to receive the high “Fellow” honor from both Cardiology and Biomedical societies. (1997 Fellow, American College of Cardiology; 2009 Fellow, Heart Rhythm Society; 2011 Fellow, IEEE Engineering in Medicine and Biology Society; 2013 Fellow, American Institute for Medical and Biological Engineering).

Dr. Kroll is internationally recognized as a leading expert in the area of high voltage electrical devices. This includes defibrillators, and conducted electrical weapons (TASERs), among others. Dr. Kroll has more than 375 issued U.S. patents

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<sup>1</sup> *The Idea Man*, MINNESOTA BUSINESS MAGAZINE, March 23, 2015. <http://www.minnesotabusiness.com/idea-man>.

under his belt, and “about one million human beings have his patents in their bodies.” *Id.*

Dr. Kroll has co-edited, co-authored, and authored myriad books, chapters, and peer-reviewed articles concerning high-voltage shocks and electrical injuries. Dr. Kroll is the only author to have a published scientific paper on fatal head injuries resulting from a conducted electrical weapon (TASER). In 2010, Dr. Kroll was awarded the Career Achievement Award by the Engineering in Medicine and Biology Society, “arguably the most prestigious award given internationally in Biomedical Engineering.”

**Dr. Uzma Samadani, MD, PhD, FACS, FAANS**

Dr. Uzma Samadani is an associate professor in the department of neurosurgery at the University of Minnesota, and the Rockswold Kaplan Endowed Chair for Traumatic Brain Injury Research at the Hennepin County Medical Center (HCMC). Dr. Samadani is also a neurosurgeon at both HCMC—a level-1 trauma center, where Dr. Samadani deals primarily with trauma patients—and the Department of Veterans Affairs Hospital—where Dr. Samadani performs mostly elective surgery—in Minneapolis. Dr. Samadani also owns her own business, Neurotrauma Consultants PLLC, where she serves as an unaffiliated neurotrauma consultant to the National Football League.

Dr. Samadani has extensive experience in her work caring for patients with brain injury at New York Harbor Health Care System/Manhattan Veterans Administration Hospital, and Bellevue Hospital in New York. Currently, in her various positions, Dr. Samadani spends more than half of her time treating patients and dealing with the direct effects of brain trauma on individuals.

The rest of Dr. Samadani's time is spent researching brain injuries. Dr. Samadani's research mainly involves restorative neurosurgery and recovery from brain injury due to trauma, hemorrhage, or other causes. She also has a special research interest in the relationship between trauma, brain atrophy and risk factors for hemorrhage. She primarily performs this work for HCMC's Brain Injury Research Lab; however, she also spends a considerable amount of time researching traumatic brain injuries in her role as the Scientific Program Chair for the National Neurotrauma Meeting of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons section on Neurotrauma and Critical Care. Dr. Samadani's knowledge and experience on head and brain trauma are indisputable.

### **Michael Brave**

Michael Brave has unparalleled experience regarding comprehensive law enforcement services, and force issues. He has first-hand experience as a sworn PT Wisconsin law enforcement officer since 1980, serving as a PT Patrol Captain,

Lieutenant, field training officer, training officer, and legal advisor. Mr. Brave has extensive investigation and arrest experience, both from this role, and as the former Chief of the Intelligence and Investigative Operations Unit, Office of Enforcement Operations, United States Department of Justice, where he oversaw several highly sensitive law enforcement programs. Mr. Brave is a certified, and nationally recognized, instructor in several facets of deadly, non-lethal, and less-than lethal force, and has served in leadership roles for various law enforcement organizations and professional associations.

## ARGUMENTS

### I. DR. MARK KROLL

#### A. Dr. Mark Kroll Is Supremely Qualified to Offer an Opinion in This Case.

There are very few experts more qualified to offer an opinion under the specific facts of this case than Dr. Kroll. As noted above, Dr. Kroll has led an impressive and distinguished career. However, most relevant to this case is the fact Dr. Kroll has published the first and only scientific peer-reviewed paper on fatal head injuries from skull fractures created by TASER induced falls. Yet, Plaintiff claims Dr. Kroll is not qualified to offer an opinion on the physical effects Khottavongsa may have experienced.

Plaintiff's claim is based on a number of blatant mischaracterizations and misrepresentations of Dr. Kroll's testimony during his deposition. During his

deposition, Dr. Kroll explicitly noted he is qualified to assess the cause of a skull fracture. Declaration of Joshua J. Rissman, Document 62, Exhibit 2: Deposition of Mark Kroll, PhD. at 28:14 – 29:6 (Kroll Dep.). Dr. Kroll explained to Plaintiff's counsel the process of assessing the impact force to cause a skull fracture is not a medical endeavor. *Id.* Rather, it is a subset of biomechanics and biomedical engineering. *Id.* A field to which Dr. Kroll not only belongs, but is an internationally recognized expert. Dr. Kroll further explained the science is so well-established experts in the field could assess the impact force that causes specific injuries such as various types of intracranial bleeding. *Id.* at 29:22 – 30:7.

Dr. Kroll noted he is not a neurosurgeon, and as such would never be involved in a situation where he is tasked with reviewing an individual's medical information, diagnosing his medical condition, and crafting a treatment plan. *Id.* at 29:13 – 29:20, 30:11 – 30:15. Dr. Kroll further noted a neurosurgeon is not qualified to do what he does. *Id.* at 30:22 – 31:8. Plaintiff believes this makes Dr. Kroll unqualified to offer an opinion on the cause of Khottavongsa's death. Plaintiff attempts to claim this question can only be answered one way, through the opinion of a treatment professional. Plaintiff is wrong.

Plaintiff's attempt to confuse the roles of a medical doctor and a biomedical scientist is ill-founded. Defendants are not alleging Dr. Kroll's opinion is relevant and reliable because he has experience diagnosing and treating medical

conditions. Instead, it is because of his qualifications as a biomedical scientist which is critically linked with medicine. The role of the biomedical scientist is to advance the diagnosis and treatment of patients by providing modern science to medical doctors. This is done with scientific research and papers, lectures, and the invention of medical devices and drugs.

The idea that only a physician or neurosurgeon is qualified to offer an opinion on cause of death is outlandish, and fails to recognize there are many different factors at play. Based on accepted scientific principles, a physicist could tell you whether your tire will pop by hitting a pot hole at a given speed, but he might not be able to change your tire. In the same right, a mechanic could fix your tire and tell you it looked like you hit a pothole, but he probably could not provide a scientific justification. In the same way, Dr. Kroll has unparalleled knowledge and experience concerning the effects the physical world has on biological matter. A neurosurgeon may not have any understanding of the scientific principles at work, but that does not mean Dr. Kroll should perform brain surgery. As Dr. Kroll made clear, "it's really two different things." Kroll Dep. 31:8.

That being said, the principles that went into Dr. Kroll's opinions are well recognized and accepted in the field of neurology. Dr. Uzma Samadani stated she personally uses HIC in her research work on the effect head trauma has on the brain. Declaration of Joshua J. Rissman, Doc. 48, Exhibit L: Uzma Samadani, M.D.,

Ph.D. Deposition Transcript (Samadani Dep.) at 90:24-91:2 June 29, 2017. Dr. Samadani further stated that some of the most knowledgeable and respected experts in the neurotrauma field have no neurological training whatsoever. *Id.* At 24:5 – 25:6. Plaintiff's attempt at separating out the science from medicine is fruitless, and it ignores the fact the two fields have always been interrelated, though they differ in obvious respects.

**B. Dr. Kroll's Opinion Concerning the Safety of Various Force Methods Is Relevant and Reliable.**

Dr. Kroll opined the use of electronic control represented the safest force option available. Plaintiff attacks this opinion first by misleading the Court into believing Dr. Kroll actually opined on “whether it was appropriate for a police officer to use force to control Khottavongsa.” Memorandum of Law in Support of Plaintiff’s Motion to Exclude the Testimony of Dr. Mark Kroll, Doc. 61, July 10, 2017. Dr. Kroll offers no such opinion and does not address whether it was appropriate or reasonable for officers to use force, he simply notes there are differing levels of harm that could result from differing methods of force. Similar to Plaintiff’s previous argument, he also claims Dr. Kroll is unqualified to offer an opinion on the amount of harm that could result from differing methods of force. Plaintiff claims only a police officer is qualified to offer such an opinion, because only they can understand “what force options are available.” *Id.* at 8. However, knowing what force options are available does nothing to change the resulting

amount of harm each option presents. Furthermore, Dr. Kroll's opinion is based on numerous recognized peer-reviewed studies that catalog the different force options available, as well as the likely risks. Plaintiff has done nothing to challenge the results or reliability of these studies, nor provided an acceptable basis for exclusion of this testimony.

**C. Plaintiff Has Received All the Relevant Data Underlying Dr. Kroll's Opinions.**

Plaintiff claims Dr. Kroll's opinions should be excluded because Defendants failed to provide the data underlying Dr. Kroll's opinions. Specifically, Plaintiff's claim Defendants did not provide the data supporting figure six of Dr. Kroll's report. Dr. Kroll acknowledged "I think I forgot to cite it in there," and also explained "[t]hese data may be in Hajiaghahemar." Kroll Dep. at 52:3 – 52:8. Following his deposition on June 30, 2017, the next time Plaintiff's made any concerns regarding the data known to Defendants was with the filing of this current motion on July 10, 2017.

Since that time Dr. Kroll learned the data underlying figure six was indeed not included within the cited materials. Dr. Kroll has since supplemented his report to reflect the data as outlined in the Hajiaghahemar materials; materials that at all relevant times Plaintiff has had in its possession. Based on this data, Dr. Kroll's opinion regarding the HIC score has changed from 62 to 131; however, this has not resulted in any change to Dr. Kroll's substantive opinions.

Upon learning of and correcting the error, Defendants provided a supplemental report as required under Fed. R. Civ. Pro. 26(a)(2)(E), well in advance of the deadline for doing so as outlined in Fed. R. Civ. Pro. 26(a)(2)(E) and Fed. R. Civ. Pro. 26(e)(2). Dr. Kroll's substantive opinions have not changed, nor has the data supporting Dr. Kroll's opinions changed. Thus, Plaintiff has not suffered any prejudice. Plaintiff has been given an opportunity to examine and attempt to refute Dr. Kroll's claims, as the data which Plaintiff has already "extensively" reviewed remains the basis for Dr. Kroll's opinions. Doc. 61 at 10.

As Plaintiff notes, "[d]espite extensively reviewing the cited studies, Plaintiffs are not aware of any study claiming impact velocity and HIC can be correlated without taking into several other variables." *Id.* There is no doubt the scientific principles can be difficult to grasp. What Plaintiff fails to realize is one of the two studies it cites is based on reported impact velocity; the procedure they claim is unsupported. *See* Doc. 62, Ex. 4; Affidavit of Andrew A. Wolf, Ex. A, Supplemental Expert Report of Dr. Mark W. Kroll (Kroll Sup. Report), at Appendix A (App. A) ¶1. Plaintiff is not expected to be familiar with the extensive peer-reviewed literature on this subject without the aid of an expert. Nor is it presumed Plaintiff's attorneys will be up to the task of refuting a world renowned biomedical scientist when they do not have the knowledge or experience to do so. This is precisely why experts with "scientific, technical, or other specialized knowledge"

are permitted to “help the trier of fact to understand the evidence.” Fed. R. Evid. 702. However, Plaintiff’s lack of understanding cannot serve as the basis for excluding Dr. Kroll’s opinions.

**D. Dr. Kroll’s Head Injury Criterion Opinions Are Relevant and Reliably Based Upon Well-Established and Accepted Scientific Principles.**

Dr. Kroll’s opinions regarding Khottavongsa’s Head Injury Criterion (HIC) scores are reliable, as are the data and methods of calculation these opinions are based on. Plaintiff attempts to support a contrary claim with some remarkable accusations about the science surrounding head injury criterion. Plaintiff first claims:

When HIC is calculated, it is normally expressed as a function of acceleration measured at the center of gravity of the head impact. The proper calculation requires the selection of two timing points. The time variables are selected in a way that maximizes HIC value. Yet, instead of calculating HIC using the widely-adopted method with acceleration as a baseline, Kroll opted to use velocity, which is unsupported and untested.

Doc. 61 at 12 (citation and quotation omitted). Plaintiff confuses the classical definition of HIC with the many methods by which it can be ascertained. App. A at ¶ 2. Furthermore, the idea that HIC’s proper calculation requires the selection of two timing points is flatly wrong. *Id.* The study cited as support makes no such claim, and indeed relies on reported impact velocity. *Id.*

Plaintiff next alleges “Kroll admitted he did not calculate the profile of acceleration, which is essential to an HIC calculation.” Doc. 61 at 12-13. Again, without the aid of someone knowledgeable of these concepts, Plaintiff has confused gravitational acceleration with the acceleration of head impact. Kroll Sup. Report at ¶ 3. It is the sudden acceleration of the head, which can be more easily understood as the deceleration upon impact, as the main factor relevant for calculating HIC. *Id.* This second acceleration is determined as a function of the impact velocity. *Id.* The other relevant factor is the material properties of the impact surface. *Id.* Dr. Kroll attempted to explain this to Plaintiff’s counsel at his deposition. Kroll Dep. 60:18 – 61:10.

Plaintiff next claims:

Kroll’s method for deriving HIC is flawed, because he fails to formally calculate HIC. Rather than do a calculation, Kroll relies upon scientific literature regarding HIC. HIC was developed decades ago. It involved calibrated crash dummies, these were *measured* blows.

Doc. 61 at 13. This statement not only misrepresents the science of HIC, it misrepresents the history. App. A at ¶¶ 4-5. HIC was developed long before crash test dummies were used. *Id.* Instead, scientists would sever the heads off cadavers and use them in their studies. *Id.* As the science evolved this was no longer necessary. *Id.* It is now commonplace to calculate HIC based on other methods, including computer-run finite element models. *Id.* Plaintiff also believes:

the impacts to Khottavongsa's head in his two falls from two TASER strikes were not measurable. Kroll has no way of measuring these blows and converting them to a measured HIC. Thus, the HIC literature does not support Kroll's methodology, and Kroll's opinions in this regard must be excluded.

Doc. 61 at 13. Again, this reflects Plaintiff's lack of understanding. With the dash cam video evidence Dr. Kroll was able to calculate the velocity and measure the resulting impact. Kroll Sup. Report at ¶6. The remaining factors that go into the HIC score are straightforward because the impact of a human head on a hard surface has been observed, analyzed, and replicated countless times. Id. at ¶1, ¶6. Exemplifying his lack of knowledge of HIC, Plaintiff states:

With no way to formally calculate HIC, Kroll relies on the term "low velocity contact" based on his estimation of the velocity at which Khottavongsa's head fell. . . . The max time duration of impact is limited to 15 milliseconds, where Kroll's calculation has a time duration of 133ms, over 8 times what the formula allows. Kroll provides no scientific basis for obtaining HIC from velocity, nor for his max time duration of 133ms.

Doc. 61 at 13-14. First, Dr. Kroll in no way relied on the term "low velocity contact" in reaching his opinion. Dr. Kroll calculated a velocity of 1.9 m/s based on the dash cam video and the universally accepted and objectively true formula for velocity as a function of distance and time. Kroll Sup. Report at ¶6. Plaintiff attempts to distort the basis for Dr. Kroll's opinion by misleading the Court into believing he made some type of qualitative judgment, rather than a qualitative calculation based on bedrock scientific principles.

Plaintiff is correct the 15 in HIC<sub>15</sub> notes a durational aspect of the score, but Plaintiff's grasp of the scientific principles stops there. The effect of the 15-millisecond limitation is it normalizes all head impacts to a 15-millisecond durational impact, whether the impact lasted that long or not. By way of analogy, a speedometer returns a value based on the time it takes to travel a certain distance, namely miles per hour. But the speed at a given moment is in no way dependent on the durational term in the definition, e.g. a police officer does not need to follow a car for an hour to know how fast they were going. Kroll Sup. at 7. What is more, Dr. Kroll used 133 milliseconds to calculate the velocity of Khottavongsa's head, not the duration of the impact of Khottavongsa's head with the ground. App. A at ¶6. Plaintiff appears to misunderstand Dr. Kroll's opinions as well as the scientific principles they are grounded in.

In sum, Dr. Kroll's opinions regarding Khottavongsa's HIC scores are well-founded and based upon accepted scientific principles. Plaintiff's contentions are based on a true lack of understanding. Plaintiff has convincingly proven any contention it presents is unreliable, and without basis in science. Dr. Kroll's opinions are based upon his scientific, technical, and other specialized knowledge, and they should not be excluded because they will help the trier of fact, among others, understand the evidence.

**E. Dr. Kroll's Opinions Are Supported by Scientific Literature and Studies.**

While Plaintiff's comprehension of the scientific studies is questionable, he attempts to use them to challenge Dr. Kroll's opinions. Plaintiff alleges Dr. Kroll has drawn unauthorized conclusions from other studies. He does this by attempting to capitalize on the limitations sections of the two cited studies. However, limitations sections of studies are not meant to serve as scientific refutation of later results. App. A at ¶7. Rather they are seen more as a humble recognition that later advances could clarify and expand on the results where certain aspects were not the primary concern of the study. *Id.* For example, Plaintiff cites a limitation regarding the effects of multiple impacts. At the time of Marjoux's paper (2008) there were no studies on calculating the cumulative effect of multiple head impacts. *Id.* However, since then, advances have been made and this limitation is now inconsequential. *Id.*

Plaintiff also argues HIC is not a scientific result that can be applied to specific situations. This is a further subset of Plaintiff's overall questioning of the well-accepted science behind the HIC. However, Plaintiff himself notes HIC is valid even where every specific detail is not accounted for. Doc. 61 at 17. The consistency with which HIC can be applied is part of the reason the Federal government uses HIC scores for safety certification of playground surfaces and motor vehicles. App. A at ¶ 8. While the individuals that rely on those

certifications are not the same in all relevant respects, the differences are too insignificant to invalidate well-established science.

Plaintiff next claims Dr. Kroll's testimony should be excluded because his calculations are based on an improperly low height. It should first be noted this is not a proper basis for exclusion of an expert's opinion. It is well-recognized “the factual basis of an expert opinion goes to the credibility of the testimony, not the admissibility, and it is up to the opposing party to examine the factual basis for the opinion in cross-examination.” *Bonner v. ISP Techs., Inc.*, 259 F.3d 924, 929 (8th Cir. 2001) (quoting *Hose v. Chicago Northwestern Transportation Co.*, 70 F.3d 968, 974 (8th Cir.1995)).

What is more, Plaintiff understands this claim is inaccurate. Dr. Kroll explained during his deposition the height of ten inches was used purely for calculating the velocity. Kroll Dep. 63:21 – 64:7. Khottavongsa's peak height before his head began moving toward the ground is irrelevant to calculating the velocity at the time of impact. App. A at ¶6. Furthermore, Dr. Kroll explained that had he used Khottavongsa's peak height to calculate the velocity it would have resulted in a lower HIC score, and using ten inches resulted in a more generous calculation to Plaintiff. Kroll Dep. 63:21 - 65:1.

F. **Defendant does not Bear the Burden of Proving Plaintiff's Constitutional Claim.**

Plaintiff notes the Amended Scheduling Order requires “[t]he identity of any expert *who may testify at trial* regarding issues on which *the party has the burden of persuasion* must be disclosed on or before April 24, 2017.”

As with every claim under § 1983 Plaintiff bears the burden of proving a constitutional deprivation. 42 U.S.C. § 1983. Specifically, for a § 1983 excessive force claim Plaintiff bears the burden of proving the “use of force was contrary to the Fourth Amendment” because it was “excessive under objective standards of reasonableness.” *Saucier v. Katz*, 533 U.S. 194, 202 (2001), overruled in part on other grounds by *Pearson v. Callahan*, 555 U.S. 223, 242 (2009). Plaintiff thinks this is an issue on which the Defendants bear the burden because it is similar to the qualified immunity analysis. Plaintiff is wrong. Qualified immunity is an affirmative defense, not a trial issue, because as “an immunity from suit rather than a mere defense to liability . . . it is effectively lost if a case is erroneously permitted to go to trial.” *Saucier*, 533 U.S. at 200–01. While they share similarities, “[t]he inquiries for qualified immunity and excessive force remain distinct.” *Saucier*, 533 U.S. at 204. Yet, even under qualified immunity, Plaintiff’s claim is entirely dependent on whether a constitutional deprivation was properly supported. “If no constitutional right would have been violated were the allegations established, there is no necessity for further inquiries concerning qualified immunity.” *Saucier*,

533 U.S. at 201. Defendant does not bear the burden of proving the constitution was not violated. Under Plaintiff's logic, every state actor in an excessive force case is liable *per se* until the Defendant proves no constitutional violation occurred. This is not the standard and never has been.

**G. The Court Should Not Exclude Dr. Kroll's Opinions.**

Lastly, Plaintiff argues Dr. Kroll's opinion should be excluded because his supreme qualifications could make his well-founded scientific opinions too credible. Defendants admit Dr. Kroll's "background and qualifications as a PhD., published author, regularity as an expert witness, and a professor at the University of Minnesota" are all impressive, but Plaintiff overlooks a key aspect of Dr. Kroll's experience. Doc. 61 at 19. Dr. Kroll has published the first and only scientific peer-reviewed paper on fatal head injuries from skull fractures created by TASER induced falls. Dr. Kroll is not merely qualified to offer an opinion in this case, he is the most qualified expert that could offer an opinion under the specific facts of this case.

**II. DR. SAMADANI**

**A. Dr. Samadani Reached Her Medical Opinion Based on All Plausible Causes of K's Death.**

Plaintiff claims that Dr. Samadani conducted a differential diagnosis, and that it is insufficient because Dr. Samadani failed to consider the fall resulting from the TASER, but included speculative causes. Dr. Samadani considered all possible

causes of Plaintiff's death, and did not prematurely rule out implausible causes. Because Dr. Samadani reached her medical opinion based on all plausible causes of K's death, there is no merit to Plaintiff's claim that her opinions must be excluded.

**B. Clarification of the Record and Misstated Facts**

Throughout his Memorandum of Law, Plaintiff misstates the record and misconstrues allegations for facts.

Plaintiff alleges: "In the Samadani report, Defendants -- for the first time since Mr. Khottavongsa was killed -- now take the position that the police were not responsible for his death." Memorandum of Law in Support of Plaintiff's Motion to Exclude the Testimony of Dr. Uzma Samadani, Doc. 47 at 2. However, since the onset of this lawsuit Defendants have maintained that they did not cause Mr. Khottavongsa's death. See Answer ¶ 12.

Plaintiff also alleges: "No witnesses reported Khottavongsa on the ground unconscious or otherwise exhibiting symptoms of having his skull fractured . . ." Doc. 47 at 3. Yet at least one witness testified that Mr. Khottavongsa was hit, and forcibly thrown to the ground, before getting stomped on by a group of individuals. Doc. 48, Ex. D: Cruz-Martinez Dep. 14:7-14:12. Additionally, as Mr. Khottavongsa laid on the ground in the fetal position he held his hand to his head. *Id.* at 17:24-18:1.

Plaintiff next claims: Dr. Beatty “ruled out the cause of Mr. Khottavongsa’s injuries occurring from prior to the police arriving” in part because he “relied on the fact that there was absolutely no evidence of Khottavongsa being hit with a bat.” Doc. 47 at 6. Rather according to Dr. Beatty, he ruled out “any significant brain injury prior to the police arriving on the scene” because the split-second Mr. Khottavongsa is visible on “the Turner video and witness testimony depict Mr. Khottavongsa after the altercation as having no sign of neurologic deficit or brain injury.” Doc. 47 Ex. J: Expert Report of Robert Beatty (Beatty Report) at 4.

Finally, Plaintiff asserts: “Dr. Samadani does agree that the first fall and second fall caused Khottavongsa’s brain injuries and exacerbated[sic] to his fatal condition.” Doc. 47 at 8. However, Dr. Samadani unequivocally stated blows to the back of the head resulting from the second and third times Khottavongsa fell to the ground did not contribute to “the facial contusions, the frontal skull fracture, [or] the fatal calvarial fracture.” Samadani Dep. at 52:10 - 52:12. Rather “a very, very, very strong focal impact to the left frontal scalp was what killed him.” Samadani Dep. 53:19 - 53:24.

**C. Dr. Samadani Properly Ruled in the Blows to K’s Head as A Cause of His Death.**

Plaintiff’s allegation that Dr. Samadani did not rule in the blows to the back of the head as the cause of Plaintiff’s death result from Plaintiff’s mischaracterization of her opinions. Plaintiff claims “Dr. Samadani failed to ‘rule

in" scientifically plausible' alternative explanations" of Khottavongsa's death. Doc. 47 at 10. There is nothing to support the claim that Dr. Samadani began her analysis without including all plausible causes of Khottavongsa's death.

Dr. Samadani noted Khottavongsa had extensive brain injuries. Khottavongsa had a subdural, subarachnoid, and intraparenchymal hemorrhage. Samadani Dep. 58:1 -58:3. Khottavongsa's radiology exhibited signs of coup and contrecoup injuries to both the front and the back of the head with intraparenchymal hemorrhage and subarachnoid hemorrhage diffusely throughout the brain, a clear sign that he sustained multiple blows to both the front and back of the head. *Id.* at 64:4 - 64:8. These injuries were not ruled out as a possible cause of Khottavongsa's death. They were considered as plausible causes. However, the more likely cause of death is the subdural hemorrhage because it would have led to a tear in his sinus and an accumulation of blood in the brain. *Id.* at 58:20 - 58:24, 71:8 - 71:13. Dr. Samadani opined "the medical evidence provides a reasonable degree of medical certainty that [Khottavongsa] was injured by a blow or blows to the left frontal skull, and the blow resulting in the calvarial fracture was likely the ultimate cause of death." Doc. 48, Ex. K: Expert Report of Dr. Uzma Samadani (Samadani Report), at 4. Dr. Samadani did not reach her conclusion by ruling out any possibility the blow to the back of the head caused

death. In fact, she found that it is "less likely" that the fatal injuries were caused by a blow on the back of the head. *Id.* at 2.

Separate and distinct from Dr. Samadani's medical opinion about what caused Khottavongsa's death is her opinion concerning what could have caused the fatal subdural hemorrhage. Dr. Samadani noted the subdural hemorrhage was consistent with the location of the frontal calvarial fracture. Samadani Dep. at 58:13 - 59:8. Furthermore, Dr. Samadani noted the type of hemorrhage Khottavongsa experienced is classically caused by disruption along the falcine vessels or the sagittal sinus. *Id.* Khottavongsa suffered a fracture that would have caused this precise disruption. Dr. Samadani stated it is really unlikely such a hemorrhage could be caused by anything else, and that such an occurrence would be considered rare. *Id.* Regarding what caused the fracture, Dr. Samadani noted it was undisputed Khottavongsa was involved in a melee prior to police arriving. Samadani Report at 2. She further noted that Khottavongsa's medical records showed symptoms consistent with an impact to the front of the skull. Samadani Dep. at 34:5 - 34:13, 36:10 - 36:19. Concerning the claim that the frontal calvarial fracture could have been caused by Khottavongsa falling backward, she stated that it is impossible to have sustained them from a fall to the back of the head. Samadani Report at 3. Contrary to Plaintiff's allegations, Dr. Samadani did not prematurely rule out that the blow to the back of the head caused Khottavongsa's

death, rather she ruled out the possibility that the blow to the back of the head caused a frontal calvarial fracture which led to the fatal subdural hemorrhage.

Plaintiff claims Dr. Samadani's opinion is based on the "scientifically invalid notion that a remote skull fracture, i.e. contrecoup skull fracture, is not possible." Doc. 47 at 11. Plaintiff criticizes Dr. Samadani for not citing any medical literature to support her opinions. "There is no requirement that a medical expert must always cite published studies on general causation in order to reliably conclude that a particular object caused a particular illness." *Bonner*, 259 F.3d at 929 (citation and quotation omitted). While Dr. Beatty's expert report does not cite any medical literature, he now provides references that were presumably available at the time of his report in an attempt to bolster his opinion. *See Declaration of Robert Beatty, MD.* (Beatty Decl.) July 10, 2017. Plaintiff claims the "multiple textbooks, reference guides and peer reviewed studies all com[e] to the same conclusion – that the skull can fracture remote from the point of impact." Doc. 47 at 11. It is unclear how this conclusion is significant. Nowhere in her report does Dr. Samadani claim a remote skull fracture is impossible.<sup>2</sup> In fact, Dr. Samadani stated in her deposition that some remote skull fractures are possible. Samadani Dep. at 61:9 – 61:22; Beatty Decl. Ex. D. Dr. Samadani's opinion it was impossible for Khottavongsa to have

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<sup>2</sup> Dr. Samadani acknowledges the cold transcript of her deposition could lead to a misinterpretation of her opinion. Samadani Decl. ¶¶3-4.

sustained the scalp hematoma, frontal skull fracture, and underlying brain injury from a fall to the back of the head, is in no way contradicted by the medical literature. Declaration of Uzma Samadani, MD PhD, (Samadani Decl.) ¶5.

Additionally, the medical literature cited by Beatty implies it would be highly unlikely — if not impossible — for Khottavongsa's calvarial fracture and subdural hemorrhage to be the result of a remote contrecoup fracture. According to the literature, occipital blunt impact can result in “remote” skull base (anterior cranial fossa) fractures, whereas cranial vertex impact result in linear calvarial fractures. Samadani Decl. ¶ 6-8. According to Plaintiff, Khottavongsa suffered occipital blunt impact, but did not exhibit an anterior cranial fossa fracture. *Id.* Rather he suffered a linear calvarial fracture, despite allegedly never suffering a cranial vertex impact. *Id.* This all occurred in defiance of the fact that remote fractures propagate toward the impact site along the lines of least resistance, where the bone is the thinnest, which is not over the vault. *Id.* at ¶9. Furthermore, all this resulted in a contrecoup fracture, in the thick portion of Khottavongsa's calvarial, even though there is no scientific evidence such a phenomenon can occur above the orbital rim. *Id.* at 10-11.

Plaintiff recognizes this would be an unlikely occurrence. According to Plaintiff a “recent study describes as a basic principle precisely what happened to Khottavongsa.” Doc. 47 at 12. This “recent study” was actually a case report

published by Clinical Neurology and Neurosurgery. To even be “considered for publication, individual case reports need to have important and novel learning points and report on unusual syndromes or diseases.”<sup>3</sup> The fact this report was published shows it met this definition. Yet, Khottavongsa’s injury, if it is to be believed would be even less probable than the subject of the case report, because the subject’s fracture was basilar where as Khottavongsa’s was not. Beatty Decl. Ex. I. As additionally stated in the literature, a “precondition for establishing the diagnosis of a ‘contrecoup fracture’ is that a fracture is confined to the orbital roof,” this was not the case here. Beatty Decl. Ex. K at 3; Samadani Decl. ¶8. Also, in the most extensive study of the phenomenon the doctors “could not find any contrecoup fractures without a simultaneous fracture in the area of the point of impact.” Beatty Decl. Ex. K at 4. Khottavongsa had a fracture near the front/top of his head, but he did not have one in the area Plaintiffs allege was the point of impact. Samadani Decl. ¶8.

Dr. Beatty’s opinions are not the subject of this memorandum. But his attempt at bolstering them in order to exclude Dr. Samadani fails, while at the same time exposing the weakness of his own conclusion.

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<sup>3</sup> Elsevier, *Types of Papers*, Guide for authors - Clinical Neurology and Neurosurgery - ISSN 0303-8467, <https://www.elsevier.com/journals/clinical-neurology-and-neurosurgery/0303-8467/guide-for-authors>

**D. Impact to The Front of Khottavongsa's Head is a Scientifically Plausible Cause of His Death.**

Plaintiff takes issue with Dr. Samadani's ultimate opinion. Dr. Samadani concluded "based on K's imaging, the most likely cause of his scalp hematoma, frontal skull fracture, and underlying brain injury is multiple blows to the left, front and top of the cranium." Samadani Report at 3. At her deposition, Dr. Samadani stated the blow could have been from any very hard object, Samadani Dep. at 54:10 – 54:23. 21-23, creating a very, very, very strong focal impact to the left frontal scalp. *Id.* at 53:19 – 53:24. Apparently, Plaintiff does not take issue with any of these conclusions, but rather believes that Dr. Samadani's testimony should be excluded because she uses a bat as an example of the type of object that could cause this injury.

Plaintiff states "[i]n performing a differential diagnosis, a physician begins by 'ruling in' all **scientifically plausible** causes of the plaintiff's injury." Doc. 47 at 10 (quoting *Kudabeck v. Kroger Co.*, 338 F.3d 856, 859–62 (8th Cir. 2003))(emphasis added). Plaintiff does not allege it is not **scientifically plausible** Khottavongsa's injury could be caused by an impact to the front of his head. Dr. Samadani concluded it is scientifically probable it was. While Plaintiff will likely argue it is not **factually probable** Khottavongsa's injury was caused by an impact to the front of his head, that is not even the basis for his argument. Rather, Plaintiff argues Dr. Samadani's opinion should be excluded because it is not **factually probable**

Khottavongsa's injury was caused by an impact to the front of his head, **from a bat.**

It bears repeating it is well-recognized "the factual basis of an expert opinion goes to the credibility of the testimony, not the admissibility, and it is up to the opposing party to examine the factual basis for the opinion in cross-examination." *Bonner*, 259 F.3d at 929 (8th Cir. 2001) (quoting *Hose*, 70 F.3d at 974).

Plaintiff has provided no reason why this case should serve as the exception to the rule. Even if Dr. Samadani had concluded that only a bat could have caused Khottavongsa's injuries—which she did not—Plaintiff's arguments would still be mere attacks on the factual basis of her opinions, an improper basis to exclude expert testimony.

**E. Plaintiff's Misconstrue Dr. Samadani's Opinion in An Attempt to Make It Appear Improper.**

Plaintiff claims that Dr. Samadani improperly "rules in" an injury prior to police arrival. Plaintiff's attempt to mislead the Court fails. As a rebuttal expert, Dr. Samadani's purpose is to rebut Dr. Beatty's differential diagnosis. Dr. Samadani is not required to conduct her own differential diagnosis for this purpose, but rather to rebut the claims of Dr. Beatty. Dr. Samadani did reach her own conclusion as to causation, but it in no way relied on whether Khottavongsa did or did not exhibit symptoms of a head injury prior to police arrival.

As noted, the major premise of Dr. Beatty's diagnosis is "any significant brain injury prior to the police arriving on the scene" should be ruled out as a scientifically plausible cause of Khottavongsa's death because the split-second Mr. Khottavongsa is visible on "the Turner video and witness testimony depict Mr. Khottavongsa after the altercation as having no sign of neurologic deficit or brain injury." Doc. 48, Ex. J at ¶8. Dr. Samadani rebuts this premise because it is medically unsupported and "is extremely well established in the neurosurgical field that a patient with a brain injury of the type seen in K.'s CT scan which shows multiple areas of hemorrhage (bleeding) that are subfrontal, temporal (not shown) perifalcine, and subdural can classically be awake and then neurologically deteriorate even to death." Samadani Report at 4. Because of this Dr. Samadani "opines that she saw no evidence Khottavongsa was neurologically well prior to the police arriving." Doc. 47 at 16. While Plaintiff initially recognizes Dr. Samadani's true opinion, he attempts to mislead the Court by claiming that Dr. Samadani actually concluded Khottavongsa "was neurologically unwell prior to police arrival." *Id.* at 17. Plaintiff notes that Dr. Samadani indicated Khottavongsa showed signs of being neurologically unwell after police arrival, but this does nothing to change the fact that there is no evidence Khottavongsa was neurologically well prior to the police arriving.

**F. Dr. Samadani's Opinion Officers Could Not Have Diagnosed Khottavongsa's Brain Injury Should Not Be Excluded.**

Plaintiff claims Dr. Samadani cannot offer an opinion regarding whether police could have diagnosed Khottavongsa's brain injury. Plaintiff claims this opinion conflates the applicable standard. For Plaintiff to succeed on his deliberate indifference claim he must show "an objectively serious medical need or a deprivation of that need [which] must be either obvious to the layperson or supported by medical evidence, like a physician's diagnosis." *Grayson v. Ross*, 454 F.3d 802, 809 (8th Cir.), *certified question accepted*, 367 Ark. 230, 238 S.W.3d 921 (2006), *and certified question answered*, 369 Ark. 241, 253 S.W.3d 428 (2007).

According to Plaintiff, "Dr. Samadani agreed that for her traumatic brain injury patients, it was uncommon for first responders to have actually diagnosed the injury." Doc. 47 at 18. When asked whether a first responder could diagnose an individual with a brain injury, Dr. Samadani stated they could, and in her experience, have done so. Samadani Dep. at 85:20 – 86:5. Specifically, Dr. Samadani agreed that short of being able to diagnose a person with a brain injury, it would be common to bring an individual into the hospital without knowing the person suffered a brain injury. *Id.* at 85:20 - 86:12. Essentially, Dr. Samadani agreed in many brain injury cases it would not be obvious to a layperson, or a first responder for that matter, a person suffered a brain injury.

Plaintiff does not allege Dr. Samadani is unqualified in the area of assessing an individual's medical needs, rather he claims "Dr. Samadani is not qualified on police/first responder training and best practices for assessing the medical needs of a person in police custody." Doc. 47 at 17. However, Dr. Samadani undoubtedly has knowledge of how to assess an individual's medical needs, and has experience dealing with first responders who present individuals to the hospital with medical issues. Thus, Dr. Samadani has relevant knowledge and experience on this issue to offer an opinion.

**G. The Court Should Exclude the Untimely Expert Opinions of Dr. Storrs**

As part of its motion to exclude the testimony of Dr. Samadani, Plaintiff relies on the testimony of Dr. Sarah Storrs. The Court should decline to accept the expert testimony of Dr. Storrs because she was not disclosed as required by the federal rules of civil procedure.

On December 15, 2016, the Court issued an Amended Scheduling Order that reads as follows:

Each side may call up to three expert witnesses. Disclosure of the identity of expert witnesses under Rule 26(a)(2)(A) and the full disclosures required by Rule 26(a)(2)(B), accompanied by the written report prepared and signed by the expert witness, shall be made as follows:

(A) Initial experts.

(i) The identity of any expert who may testify at trial regarding issues on which the party has the burden of persuasion must be disclosed on or before **April 24, 2017**.

(ii) The initial expert written report completed in accordance with Fed. R. Civ. P. 26(a)(2)(B) must be served on or before **April 24, 2017**.

(B) Rebuttal experts.

(i) The identity of any experts who may testify in rebuttal to any initial expert must be disclosed on or before **June 8, 2017**.

(ii) Any rebuttal expert's written report completed in accordance with Fed. R. Civ. P. 26(a)(2)(B) must be served on or before **June 8, 2017**.

Amended Scheduling Order, Doc. 24, at 2, December 15, 2016. Plaintiff did not disclose Dr. Storrs by the April 24 deadline, nor was she disclosed by the June 8, deadline. Rather she was “disclosed” on July 7, 2017. Plaintiff claims he is allowed to shirk the rules for two reasons. First, he claims Defendants alleged for the first time in Dr. Samadani’s report they were not the cause of Khottavongsa’s death. This is false. Since the onset of this lawsuit Defendants have maintained that they did not cause Mr. Khottavongsa’s death. See Answer ¶ 12.

Second, he claims Rule 26(a)(2)(D)(ii) authorizes his conduct. Rule 26(a)(2)(D) states a party must make its expert disclosures at the times and in the sequence the court orders. Only “absent a stipulation or a court order,” does (ii)

apply. In this case there is a court order which explicitly mandates Disclosure of the identity of expert witnesses under Rule 26(a)(2)(A) . . . shall be made as follows." As noted, Plaintiff did not make its disclosure in conformity with either of the methods the Court allowed.

Plaintiff may argue Dr. Storrs does not fit neatly into either of the two definitions of experts outlined in the scheduling order, and therefore, the thirty-day default procedure outlined in Rule 26(a)(2)(D)(ii) would apply. However, this is not the law. The thirty-day rule "only applies in the absence of other directions from the court or stipulation by the parties. The district court's case order set its management requirements and did not provide for rebuttal experts, and the court was entitled to hold the parties to that order." *Eckelkamp v. Beste*, 315 F.3d 863, 872 (8th Cir. 2002). At no time prior to or after the Defendants' disclosure of Dr. Samadani did Plaintiff request the Court authorize surrebuttal experts, or discuss this possibility with Defendants. "Even if plaintiffs did not have all the data needed to produce a timely rebuttal report, they knew one was needed and could have moved for leave to file much earlier." *Id.* Because Plaintiff failed to disclose Dr. Storrs as required by the Rules of Civil Procedure, the Court should exclude any expert testimony offered by her.

The Court should also exclude Dr. Storrs surrebuttal testimony because none of her testimony actually serves as a rebuttal to Dr. Samadani's opinions.

“The function of rebuttal is to explain, repel, counteract or disprove evidence of the adverse party.” *United States v. Lamoreaux*, 422 F.3d 750, 755 (8th Cir. 2005). None of Dr. Samadani’s opinions rebutting Dr. Beatty are rebutted by Dr. Storrs. Rather, she restates Dr. Beatty’s conclusions in an attempt to bolster his testimony. Furthermore, Dr. Storrs has not explained the method she used to arrive at her opinions. There is no reason to believe “the reasoning or methodology underlying the testimony is scientifically valid.” *Polski v. Quigley*, 538 F.3d 836, 838 (8th Cir. 2008). Because a “rebuttal witness may not be used to bolster testimony offered by a plaintiff in its case-in-chief,” and because none of Dr. Storrs’ conclusions explain, repel, counteract or disprove the opinions of Dr. Samadani, the court should exclude the testimony of Sarah Storrs. *Hein v. Deere & Co.*, No. C11-0113, 2013 WL 3816699, at \*10 (N.D. Iowa July 22, 2013).

In the alternative, if the Court decides not to exclude Sarah Storrs testimony, the Court should limit the scope of her expert testimony to the purpose for which Plaintiffs have identified her; to rebut Dr. Samadani’s opinions. As a surrebuttal expert to Defendant’s rebuttal expert, Sarah Storrs may not offer expert opinions relating to the cause of Khottavongsa’s death to support Plaintiff’s case-in-chief. *Marmo v. Tyson Fresh Meats, Inc.*, 457 F.3d 748, 759 (8th Cir. 2006). Sarah Storrs is only permitted to offer testimony “which is directed to rebut new evidence or new theories proffered in the defendant’s case-in-chief” i.e. new evidence and theories

proffered by Dr. Samadani. *Hein*, 2013 WL 3816699, at \*10. When the issues outlined in Dr. Storrs' declaration are limited as required, it is apparent there are little substantive opinions remaining. Therefore, the Court should exclude her testimony, but short of that, the Court should limit her testimony to only those issues which rebut opinions of Dr. Samadani.

### III. MICHAEL BRAVE

#### A. The Court Should Deny Plaintiff's Motion to Exclude the Testimony of Michael Brave.

Plaintiff claims Brave's opinions regarding the Officers use of force are unsupported and speculative. However, Plaintiff admits this claim is untrue. Plaintiff refers to two examples of claims that are allegedly unsupported and speculative. "Brave opines that 'KS was at a minimum actively resisting.'" Memorandum of Law in Support of Plaintiff's Motion to Exclude the Expert Testimony of Michael Brave, Doc. 55 at 5 (quoting Brave Rpt. at p. 53). Plaintiff admits Brave "does define 'active Resistance' according to different government agencies" and that "he actually cites to a national police standard." Doc. 55 at 5. He also admits Brave sets out in detail the facts he based his opinions on. *Id.* However, Plaintiff alleges this is not enough, and Brave needs to provide more information regarding the factual basis for his opinions. This complaint addresses information that is an appropriate subject for cross examination, not a *Daubert* motion. *Bonner*, 259 F.3d at 929 (8th Cir. 2001); *Hose*, 70 F.3d at 974. If Plaintiff truly

needed to clarify how the specific facts cited by Brave corresponded to the specific opinions, the proper time to do so would have been at a deposition. Plaintiff did not take advantage of this opportunity, and cannot use his decision to not depose Brave as the basis for exclusion.

Plaintiff also takes issue with the fact Brave “opines the second application of the Taser was appropriate.” Doc. 55 at 5. Again, he admits Brave cites to recognized police standards. *Id.* at 5-6. This time he even admits Brave listed “the justification that Khottavongsa failed to follow Officer commands and it was a tense situation and he was not in handcuffs.” *Id.* at 5. However, Plaintiff’s sole basis for arguing this opinion should be excluded is that they do not agree with it. Rather they interpret the policies identified by Brave differently, and therefore want to prevent him from giving his expert opinion.<sup>4</sup>

Lastly, Plaintiffs claim Brave’s opinion regarding Brooklyn Center’s policies and procedures are unsupported because there were no Brooklyn Center policies or procedures in the list of items reviewed by Brave. As is clear from Brave’s opinion, it was provided in response to “Mr. Drago’s policy and training violation[]” allegations. Declaration of Joshua J. Rissman In Support of Plaintiff’s Motion to Exclude the Testimony of Michael Brave, Doc. 56, Ex. A: Expert Report

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<sup>4</sup> It should also be noted Plaintiff grossly mischaracterizes what the policy actually says.

of Michael Brave, at 55. Mr. Drago's report was included in the list of items reviewed by Brave. Unless Drago's report somehow lacked the necessary information to allow him to reach his opinions, it is unclear how Brave would be without sufficient basis to respond to him when he viewed the same information.

**B. Brave's Opinions Are Relevant to This Litigation.**

Plaintiff claims Brave's opinions are boilerplate and irrelevant, and should therefore be excluded. While Plaintiff has not provided any support for his accusation the opinions expressed by Brave are boilerplate, they certainly are not irrelevant. All but one of the allegedly irrelevant opinions offered by Brave relate to the safe use of TASERs. In this case, where Plaintiff alleges Defendants' TASER use amounted to a constitutional deprivation, these opinions are certainly relevant. Plaintiff also states Brave's opinion that "Force is a Rare Event" is not relevant in this excessive force lawsuit. To understand how a reasonable officer acts in such a situation, it is relevant to understand that such scenarios are not the norm. It can be difficult to convey to a jury what the Supreme Court meant when it said force is used in situations "that are tense, uncertain, and rapidly evolving."

*Graham v. Connor*, 490 U.S. 386, 397 (U.S. 1989). Such opinions provide the fact finder with context about what it is like to be a police officer are precisely what the role of a police policy and practices expert is. These opinions are directly relevant.

Lastly, Plaintiff claims Brave's report contains legal conclusions. However, any legal conclusion offered by Brave is solely for the purpose of noting where Drago reached a legal conclusion. However, while Brave kept this confined to an appendix, Drago cites legal authorities and reaches legal conclusions in the body of his report. The extent to which Charles Drago's legal conclusions will be excluded, any legal conclusion offered in response to it will no longer be of legal consequence.

### CONCLUSION

For the foregoing reasons, Defendants respectfully request the Court deny Plaintiff's Motion to Exclude Defendants' expert witnesses.

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Dated: July 31, 2017

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